

KLAMATH PROJECT 2010 OPERATIONS PLAN

May 6, 2010

INTRODUCTION

This is the 2010 Operations Plan (Plan) for the Bureau of Reclamation's (Reclamation) Klamath Project (Project), which is located within the upper Klamath River Basin in southern Oregon and northern California. This Plan describes estimated Project operations from May 5, 2010, through March 31, 2011, based upon current and expected hydrologic conditions, and consistent with the biological opinions¹ (BO) issued by the U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration Fisheries (aka the National Marine Fisheries Service or NMFS). Reclamation developed this Plan to serve as a planning aid for agricultural water users, Klamath Basin Tribes, national wildlife refuges, and other interested parties. This plan provides an estimated Project water supply to the following areas:

- Upper Klamath Lake delivery area: This area generally includes lands in Oregon and California that receive Project water primarily from Upper Klamath Lake (UKL) and/or the Klamath River. This area also includes the Tule Lake and Lower Klamath National Wildlife Refuges.
- East Side delivery area: This area generally includes lands within the Langell Valley Irrigation District and Horsefly Irrigation District on the east side of the Project area. This area receives water from Clear Lake Reservoir, Gerber Reservoir, and Lost River.

UPPER KLAMATH LAKE DELIVERY AREA

ESTIMATED INFLOW TO UKL DURING 2010:

The estimated inflow (in acre-feet) to UKL from May 1 through September 30, 2010, using the May 1, 2010, Natural Resources Conservation Service (NRCS) forecast at 50% exceedence, is 205,000 acre-feet.

SUPPLEMENTAL WATER SUPPLIES FOR PROJECT USE FOR 2010:

Klamath Water and Power Agency (KWAPA) is implementing the Water User Mitigation Program to assist in meeting Project needs. For those lands serviced by UKL, KWAPA expects to pump at least 125,000 acre-feet of groundwater and to land idle at least 18,000 acres which results in reduced Project demand. A groundwater pumping and land idling program for the Eastside is being developed.

¹ U.S. Fish and Wildlife Service 2008-2018 Biological Opinion, dated April 2, 2008 and National Marine Fisheries Service 2010-2018 Biological Opinion, dated March 15, 2010.

PROJECT WATER SUPPLY FROM UKL FOR IRRIGATION AND REFUGES

DURING 2010:

- Water Supply for Irrigation: The estimated 2010 Project water supply for irrigation from UKL is estimated to be about 150,000 acre-feet. This estimate is based upon the hydrological conditions existing after May 1, 2010. This quantity may increase or decrease in response to hydrological conditions after May 1st because actual conditions may differ widely from those assumed by the forecast model. Irrigation supply is expected to be available sometime after May 15, 2010.
- Water Supply for Refuges: Due to severe water supply conditions this irrigation season, it is unlikely the national wildlife refuges will receive water from April 1 through October 31, 2010. Any releases from November 1 through March 31, 2011, will be contingent upon hydrologic conditions and UKL elevations.
- Initiation of Project Releases: Klamath Irrigation District (KID), Tulelake Irrigation District (TID), and Klamath Drainage District (KDD) shall not initiate delivery of Project water prior to receiving written notification from Reclamation that releases may begin.

EASTSIDE DELIVERY AREA

ESTIMATED PROJECT WATER SUPPLY FOR THE EAST SIDE DELIVERY AREA

DURING 2010:

The estimated Project water supply for irrigation from Gerber Reservoir and Clear Lake Reservoir from May 1 through September 30, 2010, is approximately 31,000 acre-feet for Gerber Reservoir, and no releases anticipated for Clear Lake Reservoir. Gerber releases are expected to be less than an average full supply at approximately 85 percent. Irrigation districts dependent on Gerber supply should manage accordingly. Table 1 displays the projected elevations of Gerber Reservoir and Clear Lake Reservoir on May 1; the minimum elevations needed to meet the BO requirements for endangered suckers on September 30 (i.e., to provide adequate over-wintering habitat and spawning access to Willow Creek); and the difference between the May 1 and September 30 reservoir capacities plus forecasted inflow, minus evaporation and seepage. The difference between the reservoir capacities on May 1 and September 30 is the estimated Project water supply for irrigation.

Table 1. Estimated Project Water Supply for Eastside Delivery Area

	Gerber Reservoir	Clear Lake Reservoir
May 1 Elevation	4,817.90	4,522.62
May 1 Storage (acre-feet)	36,370	67,510
NRCS Forecasted Estimated Inflow (70% exceedence) (acre-feet)	660	2,900
May 1 - Sept 30 Estimated Evaporation/Seepage (acre-feet)	4,300	39,200
BO Sept 30 Minimum Elevation	4,798.10	4,520.60
BO Sept 30 Minimum Storage (acre-feet)	1,308	41,150
Estimated Available Releases (acre-feet)	31,400	-0-
Estimated total amount of project water available for Eastside delivery area (acre-feet)	31,400	

OTHER INFORMATION RELEVANT TO 2010 OPERATIONS PLAN

LAKE AND RIVER REQUIREMENTS AFFECTING AVAILABILITY OF WATER FOR IRRIGATION AND REFUGE USE

KLAMATH RIVER FLOW REQUIREMENTS:

Table 2. Initial Klamath River Operational Criteria for Flows at Iron Gate Dam (IGD)

Month	2010 NMFS BO Flow – Based on a 95 percent Exceedence
March	1,275
April	1,325
May	1,175
June	1,025
July	805
August 1 through 15	880
August 16 through 31	1,000
September	1,000

These BO river flows are based on the Water Supply Index and associated exceedence. As of May 1, 2010, the exceedence is 95 percent as shown in Table 2. As part of the BO, the Water Supply Index is re-evaluated on the 1st and 15th of each month. As such, these flows could vary. The river flow operational criteria include the following down ramping rates at IGD:

- When the flow at IGD is greater than 3,000 cubic feet per second (CFS): IGD ramp down rates will follow the rate of decline of inflows into UKL combined with accretions between Keno Dam and IGD.

- When IGD flows are above 1,750 CFS but less than 3,000 CFS: Decreases in flows of 300 CFS or less per 24-hour period, and no more than 125 CFS per four-hour period.
- When IGD flows are 1,750 CFS or less: Decreases in flows of 150 CFS or less per 24-hour period, and no more than 50 CFS per two-hour period.

LAKE ELEVATION CRITERIA FOR UKL:

Reclamation will operate the Project so that elevations in UKL are maintained at levels identified in Table 3.

Table 3. Proposed 2010 Klamath Project UKL Operational “Targets” and “Floors” (all elevations in feet above mean sea level).

Date	2010 Klamath Project Operation	
	End-of-month UKL Operational “Targets”	UKL Operational “Floors”
April 30	4,141.00	4,141.00
May 31	4,141.00	4,141.00
June 30	4,140.60	4,139.65
July 15	-	4,139.00
July 31	4,139.50	4,138.69
August 31	4,138.50	4,138.08
Sept. 30	4,137.50	4,137.50

OPERATION COORDINATION:

- Based upon the current Water Supply Index, Reclamation’s Operations Model indicates that IGD releases will be at the minimum (95% exceedence) level for the beginning of the operation season. Updated information will be used around the 1st and 15th of each month to determine any changes in releases.
- Reclamation will work with KID, TID, and KDD on a daily or weekly basis as needed, to manage releases with the goal of maintaining UKL elevations near the Targets shown in Table 3 while providing flexibility for Project releases.
- If UKL elevations begin to drop below the Target elevations, Reclamation will work with KID, TID, and KDD to adjust water releases to maintain elevations above the Floor elevations as identified in Table 3.